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second station is one of the plurality of mobile stations, each mobile station capable of transmitting a respective specific spread-spectrum signal at a respective adjustable power level, the communication station further comprising:

means for despreading said normalized received signals 5 with a unique code associated with each of a plurality of respective specific spread-spectrum signals to produce a plurality of corresponding despread signals;

means for narrow band filtering each said despread signal; power measurement means for multiplying the received 10 signals with each of said filtered despread signals and measuring a power level associated with each resultant multiplied signal to obtain a plurality of received power levels associated with said plurality of respective specific spread-spectrum signals; and

means for generating a plurality of power command signals by comparing the respective received levels with a threshold level for controlling a variable-gain device in the respective mobile station for adjusting the respective transmit power level.

5. A system for adaptive power control in a cellular- 20 communications network using spread-spectrum modulation, the system comprising:

a communication station for receiving signals including a specific spread-spectrum signal transmitted at an adjustable power level from a second communication

said communication station including:

automatic gain control means for normalizing a power level associated with the received signals;

means for despreading said normalized received signals with a unique code to produce a despread signal corresponding to the specific spread-spectrum sig-

means for narrow band filtering said despread signal; power measurement means for multiplying the received signals with said filtered despread signal and measuring a power level associated with a resultant multiplied signal to obtain a received power level associated with the specific spread-spectrum 40 signal; and

means for generating a power command signal by comparing said received power level with a threshold level for controlling a variable-gain device in said second station for adjusting the transmit power 45 level; and

said second station including:

a transmitter and an associated antenna for transmitting spread-spectrum signals including said power command signal to said second station; and

said second station including:

a transmitter and an associated antenna for transmitting spread-spectrum signals including the specific spread-spectrum signal, the associated antenna also for receiving spread-spectrum signals including said 55 power command signal; and

said variable gain device for adjusting the transmit power level.

- 6. The system according to claim 5 wherein the multiplying is by logarithmically adding the received signals to 60 said filtered despread signal.
- 7. The system according to claim 5 wherein said power command signal generating means further comprises:
 - a comparator to compare said received power level with a threshold level; and
 - a control word generator for generating said power command signal in response to the comparison.

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8. The system according to claim 5 wherein the communication station is a base station communicating with a plurality of mobile stations and said second station is one of said plurality of mobile stations, each mobile station capable of transmitting a respective spread-spectrum signal at a respective adjustable power level, the system further comprising:

said plurality of mobile stations, each comprising:

- a transmitter and an associated antenna for transmitting spread-spectrum signals including the respective specific spread-spectrum signal, the associated antenna also for receiving spread-spectrum signals including a respective power command signal; and
- a variable gain device for adjusting the transmit power level; and

the communication station further comprising:

means for despreading said normalized received signals with a unique code associated with each of a plurality of respective specific spread-spectrum signals to produce a plurality of corresponding despread signals:

means for narrow band filtering each said despread signal;

power measurement means for multiplying the received signals with each of said filtered despread signals and measuring a power level associated with each resultant multiplied signal to obtain a plurality of received power levels associated with said plurality of respective specific spread-spectrum signals; and

means for generating a plurality of power command signals by comparing the respective received power levels with a threshold level for controlling said variable-gain device in said respective mobile station for adjusting the respective transmit power level.

- 9. The system according to claim 5 wherein said variable gain device changes the transmitter power level by successively either geometrically increasing or decreasing the transmitter power level responsive to said power command signal until the power level passes a desired power level and subsequently alternating between geometrically increasing and decreasing the power level with diminishing margins of error with respect to said desired power level on each iteration until said desired power level is obtained.
- 10. The system according to claim 5 wherein said variable gain device changes the transmitter power level by successively either non-linearly increasing or decreasing the transmitter power level responsive to said power command signal until the power level passes a desired power level and subsequently alternating between non-linearly increasing and decreasing the power level with diminishing margins of error with respect to said desired power level on each iteration until said desired power level is obtained.
- 11. A method for adaptive-power control in a cellularcommunications network using spread-spectrum modulation wherein a communication station receives signals including a specific spread-spectrum signal transmitted by a second communication station at an adjustable transmit power level, said method comprising the steps of:

receiving signals including said specific spread-spectrum signal by the communication station;

normalizing a power level associated with said received

despreading said normalized received signals with a unique code to acquire a despread signal corresponding to the specific spread-spectrum signal;